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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/034,294

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Seabron Adamson

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FOLEY HOAG, LLP  
PATENT GROUP, WORLD TRADE CENTER WEST  
155 SEAPORT BLVD  
BOSTON, MA 02110

EXAMINER

BORLINGHAUS, JASON M

ART UNIT

PAPER NUMBER

3693

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/034,294	<b>Applicant(s)</b> ADAMSON, SEABRON	
	<b>Examiner</b> JASON M. BORLINGHAUS	<b>Art Unit</b> 3693	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,6,8,11-14,34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,6,8,11-14,34 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/20/08 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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**Claims 4, 6, 8, 11 – 14 and 34 - 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuck (US Patent 6,115,698) in view of Hogan (Hogan W. Flowgate Rights and Wrongs. August 20, 2000. pp. 1 – 49).

**Regarding Claim 34**, Tuck discloses method for trading electrical transmission rights, comprising:

(a) receiving, from a market participant (utility companies), an offer to buy or sell (buy or sell offers) a point-to-point transmission of electric energy on a network (electric grid). (see abstract; col. 2, lines 19 - 67);

(b) for said received offer, determining if an acceptance of the said received offer would violate at least one transmission constraint (transmission capacity or import/export limits) for a component of said network (electric grid interface). (see col. 2, lines 49 – 61; col. 4, line 60 – col. 5, line 15);

(c) for said received offer, whose acceptance would violate at least one transmission constraint (differences between import and export limits) for a network component (electric grid interface), calculating, for at least one violated (limit exceeds import/export limit) transmission constraint for a network component (electric grid interface), and for at least one other point-to-point transmission right which utilizes the said network component (export/import interface), a quantity exchange rate (transfer capability) for the said network component between said received offer (import), and the said other right (export). (see col. 4, line 60 – col. 5, line 15);

(d) for said received offer, whose acceptance would violate at least one transmission constraint (import/export limits) for a network component, wherein the portion (exceeding the import/export limit) is calculated based upon an amount by which the transmission constraint would be violated by the acceptance of said received offer (the more restrictive limitation), and further based upon the said quantity exchange rate (unused transfer capability) between the said received offer (import) and the said other right (export) for the said constrained network component (electric grid interface). (see col. 4, line 60 – col. 5, line 15);

- updating data to reflect changes in the state of the network (see col. 2, lines 4 – 41 – displaying real-time information implies that the data is being updated, as it would otherwise not be real-time information);
- wherein constraints (unused transfer capability) on transmission are determined based on a database of existing trades. (see col. 5, lines 1 – 15; col. 18, lines 44 – 68); and
- wherein the step of recording includes updating a set of rights (unused transmission capacity) held by each market participant and trades made for settlement purposes. (see col. 2, lines 28 – 67; col. 4, line 60 – col. 5, line 15).

Tuck does not explicitly teach a method wherein a market participant offers to buy or sell a point-to-point transmission right on a network. (emphasis added). However, Examiner asserts that as Tuck discloses a method wherein a

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market participant offers to buy or sell a point-to-point transmission of electric energy on a network, and said transmission implies a right to transmit upon said network.

Tuck does not teach a method wherein the quantity exchange rate is calculated using a **Power Transfer Distribution Function (PTDF) matrix**, and is based upon a ratio of the **PTDF matrix elements** for the said received offer and the said other right for the said constrained network component. (emphasis added). However, while Tuck does not teach utilizing a Power Transfer Distribution Function matrix, Tuck does disclose a function that monitors the power transfer distribution throughout the network ensuring against a network overload. (see col. 2, lines 49 – 61). Furthermore, Tuck discloses that the calculations are based upon a ratio of two elements of the system, the ratio between the import and export interfaces. (see col. 4, line 60 – col. 5, line 15).

Tuck does not teach a method wherein for said received offer, whose acceptance would violate at least one transmission constraint for a network component, **permitting a portion of said other right to be purchased**, and permitting the said received offer to be accepted, **upon the said portion of said other right being purchased**; updating the **PTDF** to reflect changes in the state of the network for use in calculating future exchange rates; presenting to other participants the said received offer made by the said at least one market participant to buy or sell a new point-to-point transmission right, the presenting offer including a price and a quantity adjusted based on at least one calculated exchange rate; further limiting trades in transmission rights to a specified subset

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of rights, so as to permit electrical transmission to be transferred from a location to or from a defined hub or node; further including accounting for new transmission constraints, in response to an introduction of new transmission constraints that reflect changes in transmission systems or other contingencies, in a set of existing constraints used in calculating quantity exchange rates between offers to buy and sell transmission rights. (emphasis added).

Hogan discloses a method:

- a market participant offers to buy or sell a point-to-point transmission right (flowgate right) on a network. (see p. 6);
- wherein the quantity exchange rate is calculated using a Power Transfer Distribution Function (PTDF) matrix, and is based upon a ratio of the PTDF matrix elements for the received offer and the said other right for the said constrained network component. (see pp. 2 – 4, especially p. 4);
- whose acceptance (transaction) would violate at least one transmission constraint for a network component, permitting a portion of said other right to be purchased (purchase the appropriate number of flowgate rights), and permitting the said received offer to be accepted, upon the said portion of said other right being purchased. (pp. 15 – 16);
- updating the PTDF to reflect changes in the state of the network (changes to configuration of grid) for use in calculating future exchange rates. (see p. 28; p. 33);

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- presenting to other participants the said received offer made by the said at least one market participant to buy or sell a new point-to-point transmission right (flowgate right), the presenting offer including a price (value of flowgate right) and a quantity (number of flowgate rights) adjusted based on at least one calculated exchange rate (credits in both directions on every flowgate). (see pp. 15 – 16).
- further limiting trades in transmission rights (flowgate rights) to a specified subset of rights, so as to permit electrical transmission to be transferred from a location to or from a defined hub or node. (see p. 6); and
- further including accounting for new transmission constraints (via changing values in PTDF tables), in response to an introduction of new transmission constraints that reflect changes in transmission systems or other contingencies (grid configuration), in a set of existing constraints used in calculating quantity exchange rates between offers to buy and sell transmission rights. (see p. 28).

It would have been obvious to one of ordinary skill at the time the invention was made to have modified Tuck by incorporating the ability to buy or sell transmission rights, as disclosed by Hogan, allowing for those participants with a surplus (or a deficit) of transmission rights the ability to sell excessive (or secure needed) transmission rights, allowing for an effective and efficient electrical energy transmission marketplace.



**Regarding Claim 35**, such claim recites substantially similar limitations as claimed in previously rejected claims, specifically portions of Claim 34. Such claim limitations are therefore rejected using the same art and rationale as previously utilized.

### ***Response to Arguments***

Applicant's arguments filed 10/20/08 have been fully considered but they are not persuasive.

#### **Claim 34, Limitation (c)**

Applicant argues that Tuck neither teaches nor suggests a method "for said received offer, whose acceptance would violate at least one transmission constraint for a network component, calculating, for at least one violated transmission constraint for a network component, and for at least one other point-to-point transmission right which utilizes the said network component, a quantity exchange rate for the said network component between said received offer, and the said other right."

Applicant appears to correctly understand the Examiner's mapping of the prior art to the claim language. Rather, Applicant's centers on the contention that the phrase "transfer capability" (in Tuck) is not analogous to "quantity exchange rate" (in claim language).

However, such a definition of claim terminology was not articulated in the original specification nor utilized in the previously presented claim(s). As such,

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the broadest definition for the term was applied as to provide the "broadest reasonable interpretation consistent with the specification during the examination of a patent application since the applicant may then amend his claims." *See In re Prater and Wei*, 162 USPQ 541, 550 (CCPA 1969).

Applicant argues that in Tuck "the process simply stops if a received offer would violate a constraint." However, Tuck must be viewed in combination with Hogan.

Hogan discloses that the network has "at least one transmission constraint for a network component" (capacity limit) and that "market participants", in addition to transferring energy through the network, also "offer to buy or sell a point-to-point transmission right on a network" (flowgate rights). (see p. 15). Hogan recognizes that "No one could get more capacity on a flowgate than the total capacity...Clearly [participants] would like to produce more and sell to load. However, they would have to purchase rights on the flowgates, which becomes the cost of transmission." (see p. 16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Tuck by allowing the trading of transmission rights, as disclosed by Hogan, thereby providing the capability of a power transmission to proceed, that otherwise would be stopped, due to potential constraint violation.

Applicant argues that Tuck does not teach a ratio. A ratio in its plain and ordinary meaning just means (1) the relative magnitudes of two quantities or (2) the relation between things with respect to their comparative quantity or degree.

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Hogan discloses, in relation to a Power Transfer Distribution Function (PTDF) matrix, that the main elements of such a matrix are “distribution” or “shift factors” which is defined as “the change in the constraint induced by an increment of net load at a bus with the corresponding balanced decrement of net load at a reference bus.” (see p. 4). The relationship between the increment and decrement is a ratio.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON M. BORLINGHAUS whose telephone number is (571)272-6924. The examiner can normally be reached on Monday - Friday; 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, James A. Kramer can be reached on (571)272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M Borlinghaus/  
Examiner, Art Unit 3693

December 22, 2008